

Teknisk rapport

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Digitala trygghetslarm – Internetprotokoll för digitala trygghetslarm (SCAIP) – Testspecifikation

Digital social alarm – Social care alarm internet protocol (SCAIP) – Test specification

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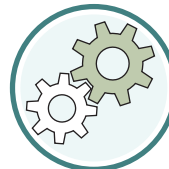
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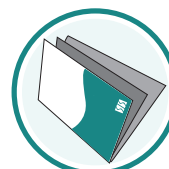
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Dokumentet ersätter SIS-TR 91101:2014, utgåva 1.

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This document replaces SIS-TR 91101:2014, edition 1

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Introduction

SS 91100:2014 is a standard specifying an open IP-based communication protocol that can be used by social care services to support people living in their own homes or grouped living.

The series of publications for social care alarms include the following:

SS 91100:2014 *Digital social alarm – Social care alarm internet protocol (SCAIP) – Specification*

TR 91101:2016 *Digital social alarm – Social care alarm internet protocol (SCAIP) – Test specification*

TR 91102:2016 *Digital social alarm – Social care alarm internet protocol (SCAIP) - Implementation guideline*

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1 Scope

This technical report is a compliance test specification for SS 91100:2014, *Digital social alarm – Social care alarm internet protocol (SCAIP) – Specification*.

The tests specified in this technical report are focused on the exchange of data.

No tests are specified to verify alarm repetition, error in network communication, alarm sequences, VoIP quality and settings or hardware capabilities.

The tests assume a correct implementation of the internet protocols used in the link, internet, transport or application layers. These tests are not intended to claim compliance to those internet protocols.

2 Normative references

This clause specifies the following documents as indispensable for the use of this document. For dated references, only the dated reference applies. For undated references the latest edition of the document applies (including all amendments).

SS 91100:2014 *Digital social alarm – Social care alarm internet protocol (SCAIP) –Specification*

SIS-TR 91102:2016 *Digital social alarm – Social care alarm internet protocol (SCAIP) – Implementation guideline*

3 Terms and Abbreviations

For the use of this document the terms and abbreviations in SS 91100 apply.

4 Test setup

4.1 General

This test specification is based on testing with at least one LUC and one ARC.

The implementation should have means for making LUC and/or ARC initiate Message Requests.

In order to avoid confusion, either LUC or ARC should be tested at a time.

The most recent published version of the XML schema should be used. Refer to SS 91100, Annex F, for how to get the XML schema.

The tests assume a working IP connection.

Apart from data exchange, actions to be taken by LUC or ARC are not part of the test specification. In order to be verified, such actions should be specified by the manufacturer of the tested equipment.

4.2 Data traffic log

The tests focus on the validation of exchange of SCAIP data, that is, the XML data attached to SIP Messages.

In some implementations it is possible to access a log of the data exchange in LUC or/and ARC. To identify the full structure of the packets of the communication protocols, logging and recording of data exchange should be done using an appropriate network analysis tool, e.g. Wireshark.

Logging should include the full setup and teardown of the alarm sequence for each test case.

5 Tests

5.1 General

In the specified tests in 5.2 to 5.5, the XML tag names have been used as a short hand for the coded data element. For example <ref> means the *reference* data element and <cid> means the *controller-id* data element.

A short hand form is also used for assignment of a value to a data element. For example, <snu>=0 means that 0 is assigned to the *status-number* data element. The meaning of the value may be explained, for example, <snu>=2 (invalid format). This form is also used for conditions, for example, <mre> >0 .

The string xxxxxx is used to indicate a valid phone number.

SS 91100, clause 6, provides the full list of XML tag names, data element names and default values.

5.2 LUC sends Message Request to ARC

Table 1 — LUC sends Message Request to ARC

Step	Action (including input data)	Expected results
1.1	LUC sends a Message Request to ARC.	The Message Request contains at least the mandatory data: <ref>, <cid> and <dt> with valid values.
1.2	LUC sends a series of Message Requests to ARC.	The value of <ref> changes for each Message Request.

5.3 ARC responds to Message Request from LUC

Table 2 — ARC responds to Message Request from LUC

Step	Action (including input data)	Expected results
2.1	In a case when ARC will determine that no voice communication is required, ARC receives a Message Request containing the mandatory data: <ref>, <cid> and <dt> with valid values.	ARC sends a Message Response with <snu>=0 and <ref> same as in the Message Request.
2.2	In a case when ARC cannot immediately determine the final alarm state, ARC receives a Message Request containing <ref>, <cid> and <dt> with valid values.	ARC sends a Message Response with <snu>=4 (Hold) and <ref> same as in the Message Request.
2.3	ARC receives a heartbeat request (a Message Request with <mt>=PI) with all mandatory data.	ARC sends a Message Response with the same <ref> as the Message Request and <snu>=0.
2.4	ARC receives a Message Request with empty or invalid <cid> or <dt>.	ARC sends a Message Response with <snu>=3 (wrong data content).
2.5	ARC receives a Message Request with missing <ref>.	ARC sends a Message Response with <snu>=10 (reference missing) and <ref>=0.
2.6	ARC receives a Message Request with empty <ref>, that is, there are XML tags but no data.	ARC sends a Message Response with <snu>=10 (reference missing) and <ref>=0.
2.7	ARC receives a Message Request with a <ref> containing illegal characters.	ARC sends a Message Response with <snu>=10 (reference missing) and <ref>=0.

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Step	Action (including input data)	Expected results
2.8	ARC receives a Message Request without <cid> or <dt>.	ARC sends a Message Response with <snu>=7 (mandatory tag is missing).
2.9	ARC receives data that is not compliant with the XML schema or not well-formed XML.	ARC sends a Message Response with <snu>=2 (invalid format) and <ref>=0.
2.8	ARC receives data but the transport protocol content-type is not "application/scaip+xml".	ARC ignores the message.
2.10	In a case when ARC will determine that no voice communication is required, ARC receives a Message Request containing <ref>, <cid> and <dt> with valid values and <crd> set to "gsm:+xxxxxx".	ARC sends a Message Response with <snu>=0 and <ref> same as in the Message Request.
2.11	In a case when ARC will determine that voice communication is required, ARC receives a Message Request containing <ref>, <cid> and <dt> with valid values and <crd> set to "gsm:+xxxxxx".	ARC sends a Message Response with <snu>=0, <ref> same as in the Message Request, <mre>=1 and <tnu> set to "gsm:"
2.12	In a case when ARC will determine that voice communication is required, ARC receives a Message Request containing <ref>, <cid> and <dt> with valid values and <crd> set to "gsm:+xxxxxx".	ARC sends a Message Response with <snu>=0, <ref> same as in the Message Request <mre>=1, <cre>=62 and <tnu> set to "gsm:+xxxxxx".
2.13	In a case when ARC will determine that voice communication is required, ARC receives a Message Request containing <ref>, <cid> and <dt> with valid values, <cha>=1 and <crd> set to "gsm:+xxxxxx".	ARC sends a Message Response with <snu>=0, <ref> same as in the Message Request, <mre>=1, <cre>=nn, <tnu> set to "gsm:", where nn denotes the number of minutes that LUC should be open for incoming callback voice communication via GSM.

5.4 LUC receives Message Response from ARC

Table 3 — LUC receives Message Response from ARC

Step	Action (including input data)	Expected results
3.1	As a response to a Message Request, LUC receives a Message Response with <ref>, <snu> and 0 or more other valid data elements. The received <ref> is identical to the previously sent <ref> and <snu>=0.	The alarm is considered handled by LUC and no more messages are sent by LUC.
3.2	LUC receives a Message Response with invalid <ref> or <snu>.	LUC ignores the Message Response.
3.3	LUC receives a Message Response with <snu>=0 and <mre> >0.	LUC calls a predefined number.
3.4	LUC receives data that is not compliant with the XML schema, not well-formed XML.	LUC ignores the data.
3.5	LUC receives data but the transport protocol content-type is not "application/scaip+xml".	LUC ignores the data.
3.6	LUC receives a Message Response with <snu>=4 (Hold).	LUC resends the Message Request to ARC after the configured time according to SS 91100, 4.2. LUC receives a Message Response with an update of <snu>.